Hit Where It Hurts: Healthcare Access and Intimate Partner Violence*

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Abstract

This paper investigates the causal link between healthcare access and intimate partner violence (IPV) victims' help-seeking behavior. Access to healthcare serves as a critical avenue for screening or detecting IPV. Doctors are legally mandated to report suspected criminal injuries to the authorities and can guide victims towards IPV support services. We exploit the 2012 reform in Spain that removed access to the public healthcare system for undocumented immigrants. We use court reports and protection order requests from the Judicial Branch of the Spanish government to perform a difference-in-differences approach, comparing the help-seeking behavior of foreign and Spanish women before and after the reform. We find that restricting healthcare access led to an immediate 12% decrease in IPV reporting and protection order applications among foreign women, particularly in regions with strict enforcement. Importantly, we show evidence that the reform did not change the underlying incidence of IPV but the results are driven by a reduction in injury reports from medical centers. Our findings are important given the increase in migration flows globally as well as for current debates on granting/limiting access to healthcare for marginalized groups.

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1 Introduction

One out of three women worldwide have experienced intimate partner violence (IPV)[1] at some point in their life. IPV is a complex multi-factorial social problem with significant health consequences and economic costs. It is a major public health concern and an underlying cause of gender inequality globally (WHO, 2013). Although it is difficult to quantify, IPV is present worldwide, with an estimated lifetime prevalence ranging from 15% to 71% (Garcia-Moreno et al., 2006). Within the European Union (EU), Barbier et al. (2020) identified a lifetime prevalence of 51.7%. The repercussions of IPV extend beyond individual victims, impacting society as a whole. Among many other adverse outcomes, victims of IPV experience reductions in employment and earnings (Lloyd and Taluc, 1999; Browne et al., 1999) and have worse physical and psychological health (WHO, 2013). IPV also increases the use of healthcare services, such as hospitalization, emergency care, and consumption of sedatives and antidepressants (Alonso-Borrego and Carrasco, 2022), and has been proven to have intergenerational impacts on children (Aizer, 2011).

Due to the widespread prevalence and extensive ramifications of IPV, many governments have prioritized it on their policy agendas. However, the effectiveness of IPV reduction policies is often hindered by the significant proportion of unreported cases (Carrell and Hoekstra, 2012). For instance, within the EU, 66% of women did not report their most serious partner violence incident to law enforcement or any other organization (European Union Agency for Fundamental Rights, 2014). Similarly, in Spain, only one out of five IPV episodes is reported to the police (Spanish Ministry for Equality, 2019). Thus, acquiring robust evidence on the types of policies that effectively promote and facilitate IPV reporting is crucial in combating its incidence.

In this paper, we contribute to this aim by providing causal evidence on the impact of restricting access to the public healthcare system on the help-seeking behavior of IPV victims. To identify these effects, we exploit a reform implemented in Spain in 2012, which imposed restrictions on healthcare access for undocumented immigrants. Before the reform, access to the Spanish healthcare system was universal; immigrants enjoyed the same healthcare privileges as native residents, facilitated by easy-to-get healthcare cards. When the reform was passed in 2012, healthcare cards of immigrants lacking legal residence permits were automatically revoked, thereby prevent-

[1] In the Spanish judicial system, intimate partner violence (known as *violencia contra la mujer* or *violencia de género* in Spanish) encompasses any form of violence directed at women due to discrimination, perpetrated by current or former spouses or individuals with whom they share or have shared close emotional bonds, regardless of cohabitation. This definition includes physical and psychological violence, as well as infringements on sexual autonomy, threats, coercion, or unlawful restriction of liberty. Furthermore, it also extends to violence targeting the relatives or children of women with the intent to cause harm or injury to the women themselves (Ley Orgánica 1/2004, de 28 de Diciembre, de Medidas de Protección Integral contra la Violencia de Género).

ing them from accessing public healthcare services in Spain. This reform holds significance due to the pivotal role healthcare centers play in detecting and reporting IPV. First, victims usually feel more comfortable disclosing IPV to healthcare professionals, which increases access to a range of IPV services that are channeled through the social security system (García-Moreno et al., 2015). Secondly, doctors and nurses in medical centers are bound by protocols mandating them to report any signs of potential IPV to the authorities, consequently initiating IPV investigations (Goicolea et al., 2013). In fact, in 2011, 12% of all IPV reports were instigated through medical injury reports. Lastly, for some specific groups of immigrant women, medical checks might be an opportunity to report the violence to individuals outside their communities, potentially mitigating risks of reprisal.

We employ a difference-in-differences model to evaluate the change in help-seeking behavior among foreign IPV victims in Spain compared to native Spanish victims before and after the reform. As a proxy for help-seeking behavior, we use the number of IPV cases registered to the court and the number of applications for protection orders submitted. An IPV report initiates legal criminal proceedings that may result in the perpetrator's conviction. Moreover, if the victim perceives an imminent risk for herself or her children, she can apply for a protection order, which may entail various measures such as restriction orders, communication prohibitions, provisional detentions, or parental custody arrangements, among others. A protection order (or a condemnatory sentence) officially recognizes the victim's status as an IPV victim from the legal standpoint, thereby granting access to rights and benefits stipulated by the law, including free legal aid, social and employment reintegration programs, financial aid, and access to secure housing, among others.

Our findings indicate a decrease of 5.58 IPV reports per 10,000 foreign women compared to Spanish women following the withdrawal of healthcare access. This represents a reduction of 12.22% compared to the pre-reform mean for foreign women. Additionally, we observe a decrease in the number of applications for protection orders by 1.44 per 10,000 foreign women, constituting a 12% decline.

In Spain, healthcare services are decentralized to regional health authorities. Consequently, the 17 regions implemented the central government's healthcare reform to varying extents. Six regions (Madrid, Murcia, Balearic Islands, Castile-Leon, La Rioja, and Castile-La Mancha) implemented the law with minimal modifications. Conversely, four regions organized alternative healthcare programs for irregular immigrants when the national healthcare reform was enacted (Asturias, Basque Country, Galicia, and Catalonia). The remaining seven regions devised alternative measures but implemented them at different points in time after the national ban's introduction. We ranked regions based on the date of implementation of any alternative healthcare provision and the imple-

mentation intensity score as defined by Cimas et al. (2016).Our analysis reveals that the reform's impact on help-seeking behavior is driven by regions that enforced the reform in a stricter manner. In particular, the reform led to a reduction of 16.6% in IPV reports and a decrease of 16.4% in applications for protection orders in regions where the policy was most stringently enforced. Conversely, in regions where the policy was less enforced, IPV reports only decreased (not statistically significant) by 7.6% and applications for protection orders by 6.7%. These findings provide suggestive evidence that access to healthcare is an important factor in empowering IPV victims to seek formal help and highlights the adverse consequences of excluding certain population subgroups from the public healthcare system.

Finally, we delve into potential mechanisms through which healthcare access could influence help-seeking behavior. On one hand, healthcare access might directly impact perpetrators' behavior, consequently affecting reporting solely through changes in incidence. To address the underlying incidence of IPV as comprehensively as possible, we undertake three approaches. Firstly, we utilize the most extensive survey available in Spain on Violence Against Women and observe no significant alteration in the underlying incidence for foreign women before and after the reform, compared to Spanish women. Secondly, we employ the male unemployment rate as a proxy measure. Upon controlling for both Spanish and foreign male unemployment rates in our primary regressions, our findings regarding help-seeking behavior remain unchanged. Lastly, we utilize register data encompassing all female deaths in Spain, finding no indication that the reform significantly influenced mortality or homicides among foreign women. These results collectively suggest that the underlying incidence of IPV does not primarily explain the reduction in help-seeking behavior among IPV victims that we document.

On the other hand, healthcare serves as a crucial avenue for the disclosure of IPV. Doctors are mandated by law to promptly report any signs of IPV directly to the judiciary system via an injury report. Moreover, they can offer victims information regarding their rights, available resources, and directly refer them to specialized IPV services. We investigate whether the reform altered the reporting channel for IPV, leveraging the variation in implementation intensity across regions. Our analysis reveals compelling evidence that the primary impacts of the reform on help-seeking behavior are driven by a reduction in injury reports made by medical centers.

To our knowledge, this is the first paper showing the causal link between healthcare access and reporting of IPV. We contribute to the economic literature on the effectiveness of policies that aim at increasing the reporting of IPV. Previous research by Iyer et al. (2012) revealed that augmenting female representation in local governments in India led to increased reporting of crimes against

women. Similarly, enhancing women's representation in police stations has proven effective in bolstering reporting rates in the US (Miller and Segal, 2019) and India (Amaral et al., 2021). Additionally, the establishment of specialized domestic violence courts or women's justice centers has been shown to enhance reporting and prosecutions of gender-specific crimes (Garcia-Hombrados and Martínez-Matute, 2021; Sviatschi and Trako, 2021). However, it's worth noting that intensifying law enforcement efforts could unintentionally deter victims from reporting, as highlighted by Iyengar (2009).

We also contribute to the literature that describes the unequal consequences of IPV against minorities and, more specifically, against immigrant women. Immigrant women are more exposed to IPV primarily because they are less aware of the availability of IPV services. Similarly, they are also more prone to be subject to stronger social stigmatization. For instance, Raj and Silverman (2003) show that South Asian women residing in the US are at higher risk of IPV; 50.6% of them report being unaware of IPV services, and 10% indicated that they would have no social support in cases of abuse. Similarly, Kalunta-Crumpton (2017) examines IPV incidence among immigrant Nigerian women, highlighting that those seeking to leave abusive partners face significant social stigmatization. These women often prefer traditional methods of marital conflict resolution over formal measures, perpetuating and reinforcing IPV. Moreover, in the Spanish context, Vives-Cases et al. (2014) reveal variations in IPV prevalence among immigrant women based on their countries of origin. For instance, IPV prevalence stands at 15.57% among Ecuadorian women, 10.91% among Moroccans, and 8.58% among Romanians.

The findings of our paper carry significant implications for public policy. We unveil a novel positive externality of the healthcare system as a crucial avenue for reporting IPV among victims facing challenging socio-economic circumstances. Access to healthcare emerges as a pivotal factor in lowering the "price" associated with reporting, thereby encouraging abused women to seek assistance. Our findings align with previous descriptive studies that underscore the role of health interventions in addressing IPV (García-Moreno et al., 2015; Colombini et al., 2017; Feder et al., 2011; Ansara and Hindin, 2010; McCloskey et al., 2006), particularly highlighting primary healthcare as a critical entry point for screening and detecting IPV incidents.

This article proceeds as follows: Section 2 provides a brief overview of the institutional setting in Spain and the 2012 healthcare reform. Section 3 outlines the data used, while Section 4 details the empirical strategy employed. In Section 5, we present the main findings regarding help-seeking behavior. We explore heterogeneity in Section 6 and potential mechanisms in Section 7. Section 8 presents various robustness checks of our main results, and Section 9 offers concluding remarks.

2 Institutional Setting

2.1 The 2012 Healthcare System Reform

Before 2012, Spain was one of just five EU countries offering access beyond emergency healthcare for undocumented migrants (Biffl, 2012).[2] Undocumented migrants could access the healthcare system under the same conditions as the native population; the sole requirement was to be registered in a municipality and apply for a healthcare card. Registration in a municipality did not require evidence of immigration status; the process only entailed presenting valid identification (e.g., a passport or ID from any country) and proof of the individual's residential address (such as a utility bill).

Most irregular immigrants registered themselves in the municipality to access free healthcare and public education (González-Enríquez, 2009). The potential risks associated with municipality registration are minimal due to weak internal controls on irregular immigrants and understaffing in the Labour Inspection service. Consequently, deportation numbers are exceedingly low. According to the Spanish Ministry of Interior, only 54,963 immigrants were deported between 2013 and 2017, constituting a mere 0.055% of the undocumented immigrant population (González-Enríquez, 2009). These figures have remained stable, with no significant change in deportation rates before and after the healthcare access reform. For comparison, deportation numbers in the US were approximately 438,000 in 2013, equivalent to 3.98% of the undocumented immigrant population.[3]

In 2012, the Spanish government enacted Royal Decree-Law 16/2012, which transformed the Spanish National Health Service from a publicly funded universal healthcare system to one linked to the contribution-based social insurance system. Effective from September 1st, the law aimed to ensure the sustainability of the public healthcare system. Under the new system, individuals who had never contributed to the social security administration and were not dependents of contributing individuals were excluded. Consequently, the primary group excluded from the public healthcare system due to the reform were undocumented immigrants. Unlike some other countries, undocumented migrants in Spain cannot contribute to the social security system, even if they work illegally. Notably, there were no significant immigration reforms during the study period, nor were there changes that could have impacted immigrants' ability to work in Spain. Importantly, the healthcare reform was not a response to increasing hostility towards immigrants but rather an

[2]Other EU countries providing more than minimal emergency care include France, Italy, Portugal, and the Netherlands.

[3]Data reported by the PEW Research Center on October 2, 2014, available at https://www.pewresearch.org/fact-tank/2014/10/02/u-s-deportations-of-immigrants-reach-record-high-in-2013/

austerity measure to alleviate the financial strain on the healthcare system amidst the economic recession.

In implementing the reform, the government electronically invalidated all healthcare cards of individuals without legal residence. However, there were three exceptions to this reform: pregnant women, emergency care in the case of an accident, and children under 18 years old. According to government reports, approximately 873,000 healthcare cards were canceled within a year after the reform.

Given the wide-ranging changes to healthcare access, it is plausible that some individuals who should have been entitled to healthcare under the new system—such as foreign workers with legal residence permits, whether EU or non-EU citizens—may have been effectively excluded due to administrative requirements and errors. For instance, some residence permits might still have been in processing or issuance stages. Moreover, there might have been instances where migrants with legal residence permits were unaware of their entitlements. Non-governmental organizations (NGOs) in Spain have reported effects of the healthcare reform on the regularized migrant population. According to Médicos del Mundo (2015), the implementation of the reform was stricter than intended by the law. Specifically, they observed a significant lack of knowledge about access rights to healthcare among migrants, both with and without residence permits. Additionally, they found instances where immigrants in protected patient categories (e.g., pregnant women or asylum seekers) were denied treatment, despite being entitled by law. Furthermore, many regularized immigrants in Spain were reportedly denied access to the healthcare system after the reform due to administrative errors. These reports highlight a lack of understanding of the process among both immigrants and healthcare administrative staff, resulting in a more stringent implementation of the reform than originally envisioned by the law.

2.2 Undocumented Immigrants in Spain

Immigration in Spain experienced gradual growth during the 1980s, accelerating significantly after 2000. While the number of immigrants residing in Spain was only 277,000 in 1990, it nearly reached 6 million by 2008. The composition of immigrants has also evolved over time. In the late 1980s, immigrants from Western Europe accounted for half of all immigration, whereas by 2008, they constituted only 18% of the immigrant population. Moroccans were the primary non-EU immigrants in 1990, but this position is now held by immigrants from Latin America (González-Enríquez, 2009).

Illegal immigration in Spain has been more prevalent than exceptional. In 2000, 83% of immigrants arrived in Spain without a work permit (Díez and Ramírez, 2001). Another study conducted in Catalonia in 2003 revealed that 50% of immigrants were undocumented in that region (Pajares et al., 2004).

Despite limited survey studies, estimating the percentage of irregular immigrants is challenging. In Spain, undocumented immigrants can voluntarily register in municipalities to receive free healthcare and access to public education (González-Enríquez, 2009). Therefore, estimates of irregular immigration in Spain are typically derived by comparing the number of immigrants registered in municipalities with the number of residence permits. Jiménez-Rubio and Vall Castello (2020) employ this methodology to calculate the percentage of undocumented individuals by nationality. Their analysis, detailed in the Appendix (Figure A1), demonstrates significant variability in the percentage of undocumented immigrants across nationalities, ranging from 75% for immigrants from Dominica to just 1% for those from Kenya.

Unfortunately, we only possess data on help-seeking behavior for all immigrants, lacking further information on their legal status or country of origin. Consequently, in our analysis, we treat all immigrant women as equally affected by the healthcare system reform. While some of these immigrant women may possess a residence permit and enjoy full legal status, our estimates represent a lower bound of the true impact of the reform on help-seeking behavior. Nevertheless, NGOs and other organizations have documented several cases of legal immigrants being denied access to the healthcare system after the reform. Thus, considering all immigrant women as affected by the reform may be more realistic than initially presumed.

2.3 Intimate Partner Violence in Spain

More than 2 million women in Spain, representing 10.9% of women older than 16, have experienced physical, psychological, or sexual violence at some point in their lives, as per the 2011 Violence Against Women Survey. However, only 27.4% of these cases were reported directly to the court or police. Reducing violence against women and increasing reporting rates is a significant priority in Spain. Since 2004, the government has introduced comprehensive legislation to protect against intimate partner violence, incorporating policies covering housing, employment, and criminal justice. These measures are complemented by awareness campaigns, the establishment of a Ministry for Equality, and the creation of specialized IPV courts. Additionally, since 2000, undocumented foreign victims of IPV in Spain have been granted additional protection to prevent them from remaining in abusive relationships out of fear of deportation. Specifically, they are entitled

to a temporary (5-year) residence and work permit upon receiving a protection order or a public prosecutor's office report acknowledging gender violence. Moreover, protection against sanctions is ensured if the victim's undocumented status is revealed when reporting gender violence.

Despite these efforts, foreign-born women in Spain experience a higher incidence of IPV than Spanish women, and the physical violence they endure tends to be more severe. While 10.1% of Spanish women have suffered physical, psychological, or sexual violence in their lifetime, this figure rises to 20.9% among immigrant women, according to the 2011 Violence Against Women Survey. Although educational level and employment status can serve as protective factors against IPV, immigrants with high education and income levels still exhibit a higher prevalence compared to Spanish women with similar education and income levels (Delegación del Gobierno para la Violencia de Género, 2012). Additionally, immigrant women face a higher risk of being murdered by an intimate partner than Spanish women; in 2011, they accounted for 35% of IPV fatalities while comprising only 11.51% of the female population (Consejo General del Poder Judicial, 2011).

2.4 Intimate Partner Violence Reporting Process

There are four ways to report cases of IPV and initiate a trial. FFirst, the victim herself can report the situation to the police or directly to the court, accounting for 71% of cases in 2011. Secondly, the police are legally obligated to report the situation to the court if they assist the victim or witness it, constituting 15% of all cases. Thirdly, protocols mandate doctors in hospitals and medical centers to submit an injury report to the court if they observe signs of IPV; 12% of all claims in 2011 were initiated through a medical injury report. Finally, family or friends aware of the situation can inform the police or the court, though this is less common (2% of all claims). Every report is promptly registered as an IPV case in court, irrespective of the initiator and whether it was made to the police or the court.

Following the registration of the IPV case in court, the investigation phase commences, with judges responsible for conducting the investigation and determining whether to dismiss or accept the case. If accepted, judges may issue protection orders if they deem there to be imminent danger to the victim (which occurred in 27% of all cases in 2011). These protection orders may include provisional prison, approach or residency bans, allocation of the use and enjoyment of the family home, determination of custody, or access to protected housing, as well as labor and social security rights. The investigation phase must be completed within 72 hours of the report. If the case is accepted during the investigation phase, it is transferred to the relevant criminal or civil court for the oral trial phase, ultimately resulting in either the defendant's acquittal or conviction.

3 Data

We gather data from two administrative sources: the Spanish National Institute of Statistics (INE) and the Judicial Branch of the Spanish Government (Consejo General del Poder Judicial).

3.1 IPV Reports and Protection Order Applications

We use information from the judiciary records gathered by the General Council of the Judicial Branch of the Spanish Government for the period 2011-2013. We obtain quarterly data on the number of total IPV cases registered in the court, as well as the number of applications for protection orders made by both Spanish and foreign victims in each of the 17 regions (Autonomous Communities) in Spain.[4] Note that any report of IPV, regardless of whether it is made directly in the court or in the police station, is immediately registered as an IPV case in court. We divide these numbers by the Spanish and foreign female population living in each Autonomous Community. We obtain this annual information from the population register in each Autonomous Community. Finally, we multiply it by 10,000. Thus, our two main proxies for help-seeking behavior will be the number of IPV reports or applications for protection orders per 10,000 women, categorized by immigrant status.

Table 1 presents the summary statistics for these measures before and after the reform, by foreign and Spanish women separately. We can observe that, on average, foreign women filed a larger number of IPV reports than Spanish women. In particular, before the reform, there were 9. 35 reports per 10,000 Spanish women, on average each quarter, while there were 45.64 reports per 10,000 foreign women per quarter. We observe a similar pattern when we focus on applications for protection orders. Before the reform, there were on average 2.67 applications per 10,000 Spanish women each quarter and 12.07 per 10,000 foreign women. We also calculate the percentage of IPV claims that include an application for protection orders. We observe in Table 1 that, before the reform, 29.32% of IPV reports from Spanish women applied for protection orders. This percentage is very similar to that of foreign women (27.36%).

As previously explained, although the reform was intended to impact only undocumented migrants, we include all victims with foreign nationality in our treatment group. This decision is primarily due to data availability issues, as we are unable to distinguish between immigrants with

[4]The database on applications for protection orders can be downloaded here: "https://www.poderjudicial.es/cgpj/es/Temas/Estadistica-Judicial/Estadistica-por-temas/Datos-penales–civiles-y-laborales/Violencia-domestica-y-Violencia-de-genero/Datos-sobre-Violencia-sobre-la-mujer-en-la-estadistica-del-CGPJ/". The IPV reports by nationality are not directly available on their website, but they can be requested for free by emailing: estadistica.judicial@cgpj.es. estadistica.judicial@cgpj.es.

and without a legal residence permit. However, evidence from various NGOs suggests that the reform also affected legal immigrants due to administrative oversights and/or misconceptions from migrants and healthcare administrative workers regarding their healthcare access rights.

3.2 Control Variables

In our specifications, we control for several factors that might be correlated with help-seeking behavior and/or IPV incidence.

Female Population

We use as control variable the Spanish and foreign female population residing in each Autonomous Community. For each observation of the outcome variable, we assign it the corresponding Spanish or foreign female population, so that we only include one female population variable as control. This annual data is collected by the Municipal Register and is available in the Spanish National Institute of Statistics.[5] In Table 1, we can observe that, on average, there are 1,241,400 Spanish and 161,600 foreign women living in each Autonomous Community before the reform. The Spanish female population slightly increased after the reform, while the foreign female population slightly decreased to 160,400.

Help-seeking behavior of both foreign and Spanish women might be correlated with the size of its female population group. Regions with larger populations of foreign and/or Spanish women might have a higher concentration of IPV services, whether specialized or general. Additionally, seeking formal help may incur greater costs in smaller communities, both financially and socially, and there may be fewer available outside options.

In fact, De Miguel Luken (2015), using the 2015 Violence Against Women Survey, found that in smaller municipalities (with fewer than 2,000 inhabitants), fewer women report suffering from physical violence. They also discovered that in these municipalities, a lower percentage of women who experience IPV make formal reports to the police or courts, but a higher proportion of these women seek help from other sources such as healthcare or social services.

Female Labor Market

Quarterly unemployment rates and labor force participation rates for women, disaggregated by nationality status for each Autonomous Community, were obtained from the Spanish National Institute of Statistics.[6] In Table 1, we observe that immigrant women have a higher participation

[5]The data used can be accessed here: https://www.ine.es/jaxi/Tabla.htm?path=/t20/e245/p08/l0/&file=02001.px&L=0.

[6]The data used in the paper can be accessed here: https://www.ine.es/dynt3/inebase/es/index.htm?padre=990&capsel=994.

rate, around 70%, compared to Spanish women, who have a participation rate of around 50%. Conversely, the unemployment rate is higher for immigrant women compared to Spanish women. Additionally, for both immigrant and Spanish women, the unemployment rate slightly increased after the reform, while participation rates remained more or less constant.

In our baseline specification, we include the female participation and unemployment rates for either Spanish or foreign women to control for local labor market conditions and their potential impact on the help-seeking behavior of women who experience IPV. As before, we only include one variable for Spanish/foreign women unemployment rate and one for Spanish/foreign women participation rate. It is possible that women who are unemployed or stay-at-home may be more likely to stay in abusive relationships and may be less inclined to report IPV. Alternatively, the opposite may be true, as staying with a partner (if not undocumented) still allows access to healthcare services, potentially providing more opportunities for medical staff to detect IPV and encourage these women to report.

Male Labor Market

Quarterly unemployment rates and labor participation rates for men, disaggregated by nationality status for each Autonomous Community, were also obtained from the Spanish National Institute of Statistics.[7] In Table 1, we observe a very similar labor market pattern between immigrant and Spanish men. Immigrant men have both higher participation and unemployment rates than Spanish men.

Empirical evidence suggests that male labor market outcomes are strongly linked to IPV rates. Loss of employment constitutes a stressful event that can lead to increased tension within the couple and, in some cases, to marital violence (Cunradi et al., 2009; Fagan and Browne, 1994). Additionally, as we do not have information on whether the partners are Spanish or foreign, we will not make any assumptions in that regard and will include two variables for the unemployment rate and two for the participation rate of both Spanish and foreign men.

4 Identification Strategy

To determine a causal relationship between the withdrawal of access to healthcare and help-seeking behavior, we use a difference-in-differences model. In this model, Spanish women are the control group, as they are not affected by the reform, which overwhelmingly withdrew access to healthcare for foreigners and, in particular, undocumented women. We estimate the following equation:

[7] The data used in the paper can be accessed here: https://www.ine.es/dynt3/inebase/es/index.htm?padre=990&capsel=994.

$$\frac{HSB_{rqyf}}{Pop_{rqyf}} * 10000 = \beta_0 + \beta_1 Foreign_f + \beta_2 Post_{qy} + \beta_3 Foreign_f * Post_{qy} + \beta_4 X_{rqyf} + \delta_r + \mu_{qy} + U_{rqyf} \quad (1)$$

where $\frac{HSB_{rqyf}}{Pop_{rqyf}} * 10000$ represents our main outcome variable: women's help-seeking behavior, proxied by the number of IPV reports or applications for protection orders per 10,000 women residing in region *r* in year *y* and quarter *q* by nationality *f*. $Foreign_f$ is a dummy variable that is equal to 1 for immigrant women and 0 for Spanish women, and $Post_{qy}$ is also a dummy equal to 1 for all periods after the third quarter of 2012 and 0 otherwise. δ_r is the region, and μ_{qy} is the quarter-year fixed effects. X_{rqyf} includes a list of control variables, such as (own immigration status) female population, (own immigration status) female labor market participation and unemployment rate and foreign and Spanish male participation and unemployment rates. We cluster the standard errors at the regional level and perform a wild bootstrap procedure to account for the small number of clusters (17 regions). In some specifications, we also include a region-specific linear trend to account for any linear changes over time that can influence the help-seeking behavior of women differently across regions. β_3 is our main coefficient of interest.

Identification Assumption

Our main identifying assumption is that, in the absence of the healthcare reform, the help-seeking behavior of foreign and Spanish IPV victims would have evolved in the same way between 2011 and 2013. This requires that any unobservable differences in help-seeking behavior between foreing and Spanish IPV victims are fixed over time. While this assumption is untestable, we explore its plausibility by analyzing whether the help-seeking behavior of foreign and Spanish IPV victims was on parallel trends before the healthcare reform took place.

We can inspect the evolution of the raw means of IPV reports from foreign and Spanish women in Figure 1. As it can be seen, before the reform, IPV reports of foreign and Spanish women followed parallel trends. We formally test the potential divergence in the trends by performing an event-study approach. In particular, we run the following regression:

$$\frac{HSB_{rqyf}}{Pop_{rqyf}} * 10000 = \alpha_0 + \alpha_1 Foreign_f + \sum_{j=2011q2}^{2013q4} \beta_j Foreign_f * \mu_j + \alpha_2 X_{rqyf} + \delta_r + \mu_{qy} + U_{rqyf} \quad (2)$$

which is very similar to Equation 1 but now $\sum_{j=2011q2}^{2013q4} \beta_j Foreign_f * \mu_j$ is the interaction term between the foreign dummy variable (equal to one for immigrant women and 0 for Spanish women)

and a set of quarter-year dummy variables. We consider the first quarter-year in our sample, the first quarter of 2011, as the baseline. If the parallel trend assumption is fulfilled, we should find that all the β_j coefficients for the quarter-years before the reform (2011q1-2012q3) would be equal to zero.

5 The Reform Effect on Help-seeking Behavior

Tables 2 and 3 examine the impact of the reform on the help-seeking behavior of IPV victims. We focus on two main outcomes: IPV reports and applications for protection orders. Table 2 shows the reform's effect on IPV reports per 10,000 women using different specifications. In column 1, we report the effect on IPV reports without using any control (only year-quarter and regional fixed effects). We find that the healthcare reform reduced the number of IPV reports by 5.97 per 10,000 foreign women. Columns 2 to 7 add more controls (population, labor market controls, and regional linear time trends) to the estimation. We observe that our estimates are extremely robust to these additional controls. Column 6 shows our preferred specification, which includes all controls except the regional linear time trends. Removing healthcare access to undocumented immigrants reduced IPV reports by 5.58 ($\sim$ 12.22%) per 10,000 foreign women.

Table 3 also shows a very similar reduction in the number of applications for protection orders. We estimate, in column 2, that applications for protection orders were reduced by 1.44 per 10,000 foreign women or 12% after healthcare access was restricted. If we compare columns 1 and 2, we again find that our estimates are robust to the inclusion of controls. We also look at the reform's impact on the proportion of IPV reports that apply for protection orders, and we do not find any effect. This result indicates that the reform did not impact the severity of reported cases.

For the specific case of applications for protection orders, we have access to data separated by nationality groups at the yearly level (unlike the more disaggregated quarterly level). Thus, we can employ a similar model as before but with yearly fixed effects instead of year-quarter fixed effects, and considering 2011 and 2012 as pre-reform years and 2013 as the post-reform year. [8] Table 4 illustrates that the reform's impact on all foreigners is negative and significant (first column). In particular, the reform led to a decrease in applications for protection orders among foreign women by 3.66 per 10,000 women, constituting a 7.7% reduction from the pre-reform mean.[9] Notably, this effect is predominantly driven by American women, with 98% of them being Latino-American

[8] It's worth noting that the reform took place in September of 2012, so by taking 2012 as a pre-reform year, our estimates will be a lower bound, as part of this year is affected by the reform.

[9] This effect appears somewhat attenuated due to the partial influence of the reform on one of our pre-reform years, 2012.

women, who, in turn, have the highest likelihood of being undocumented (as observed in Figure A1 in the appendix section). Furthermore, American women exhibit the highest IPV reporting rate before the reform, with 69.53 reports per 10,000 women.

5.1 Event Studies

One of the main assumptions for the validity of the difference-in-differences approach is the absence of time-varying pre-existing differences between the help-seeking behavior of Spanish and foreign IPV victims. To assess the validity of the parallel trend assumption, we employ an event study approach, estimating equation 2 for IPV reports and applications for protection orders for every 10,000 women. In Figure 2, we plot the estimated coefficient of the interactions between the quarter-year dummies and the foreign women dummy, with the coefficient for the first quarter of 2011 normalized to 0.

The healthcare reform was enacted in April 2012 (the third quarter of 2012) but came into effect in September 2012. Hence, the last quarter of 2012 is the first quarter affected by the reform (indicated by the red vertical line in Figure 2). The event studies reveal that all coefficients for the seven pre-reform quarters (almost two years) are close to zero and statistically insignificant. These graphs suggest no pre-existing increasing or decreasing trend of help-seeking behavior for foreign women compared to Spanish women before the reform.

Figure 2 also indicates that the effect of restricting healthcare access on both IPV reports and applications for protection orders was immediate following the reform and persisted throughout the post-reform period (over one year).

6 Heterogeneity across regions

In Spain, there is a certain degree of decentralization of political power at the level of the autonomous cities and communities (hereafter referred to as regions). In particular, the provision of healthcare services is entirely decentralized to the regional health authorities, which allowed them to adjust the central government's healthcare reform in different ways. Six regions (Madrid, Murcia, Balearic Islands, Castile-Leon, La Rioja, and Castile-La Mancha) implemented the law with minimal modifications. In contrast, four other regions organized alternative healthcare programs for irregular immigrants that were passed right after the national healthcare reform was implemented (Asturias, Basque Country, Galizia, and Catalonia). The remaining seven regions arranged alternative measures but implemented them at different points after the introduction of the national

ban. The eligibility requirements, administrative requirements and medical services included for these alternative healthcare programs varied across the regions.

Cimas et al. (2016) provide an in-depth summary of the regional implementation of the restrictions on healthcare access for undocumented immigrants. They also rank the 17 Spanish regions according to the intensity of implementation of the national law. For the intensity score, Cimas et al. (2016) used eight criteria: having provided a legislative action for alternative healthcare access, groups of patients covered, administrative requirements (documents required to acquire a health card), medical care services included, coverage of out-of-pocket payments, medical history included in the general patients' database, and diseases of public health relevance included.

We ranked regions by the date an alternative healthcare provision was implemented (if any) and the intensity score of Cimas et al. (2016) We summarize the most important aspects considered by Cimas et al. (2016) in Figure 3 and divide the sample in two. The Valencian Region, Cantabria, Canary Islands, Madrid, Murcia, Balearic Islands, Castile-Leon, La Rioja, and Castile-La Mancha are considered regions that enforced more the central government's healthcare reform. In contrast, the rest of the regions implemented the law less intensively.

In Table 5, we conduct a heterogeneity analysis on these two groups of regions. We find that the impact of the reform on help-seeking behavior is more pronounced in regions that enforced the law more rigorously, with an estimated 16.6% reduction in foreign IPV reports and a 16.4% drop in applications for protection orders, relative to Spanish women. The magnitude of the effect is smaller and statistically insignificant for regions with less enforcement, with an estimated 7.6% reduction in IPV reports and an 6.7% drop in applications for protection orders. We still observe no change in the percentage of IPV reports applying for protection orders, in any of the two groups of regions. Finally, Figure 4 shows that the parallel trend assumption is fulfilled for the two subgroups of regions.

7 Mechanisms

Healthcare access could influence help-seeking behavior through two distinct channels. Firstly, access to the healthcare system might empower women to disclose abuse by providing a safe space for victims. Additionally, healthcare professionals, even if they don't identify clear cases of violence, can still refer women to IPV-specialized services available within the healthcare system. Secondly, the observed reduction in IPV reports could also stem from a decrease in the underlying

incidence of violence. Understanding the relative contributions of these two potential channels is crucial from a policy perspective. Therefore, in this section, we conduct a detailed analysis to determine the primary mechanism driving the documented drop in IPV reports.

7.1 Healthcare as a Disclosure and Referral Mechanism

Healthcare services play a critical role in identifying and addressing IPV, serving as a vital link to specialized domestic violence services. IPV poses significant health risks, both physical and psychological, making the healthcare system often the primary—and sometimes sole—point of contact for IPV victims with public professionals. This contact presents an opportunity for intervention, facilitated by the trust relationship typically existing between the victim and healthcare provider.

In Spain, following the enactment of Organic Law 1/2004 on Integral Protection Measures against Gender Violence, doctors are legally mandated to report any suspicion of IPV directly to the judiciary system through an injury report. Additionally, healthcare workers are tasked with providing victims information about their rights and available resources, and they should refer them to specialist violence agencies where more intensive advocacy interventions are available.

In this Section, we explore the extent to which our results may be driven by immigrant women having less access to healthcare after the reform, leading to fewer disclosures of IPV to healthcare professionals. We have access to data on the source of IPV reports, whether they were initiated by the victim directly, by healthcare centers (through an injury report), or by the police or family members. Thus, we can examine how the reform affected the reporting channels for IPV cases. If the reform primarily influenced the disclosure aspect of healthcare access for IPV victims, we would expect to observe a reduction in the number of IPV reports initiated by healthcare centers after the reform. Additionally, although to a lesser extent, healthcare access might also impact reports initiated by victims, as healthcare professionals often serve as sources of information and referral to specialist IPV agencies.

Unfortunately, we lack this data disaggregated by victims' nationality, which limits our ability to use our previous identification strategy to address this question. Instead, we rely on regional variation in the intensity of reform implementation. Therefore, we employ a difference-in-differences approach, comparing regions with stronger enforcement of the law against those with weaker enforcement, both before and after the reform. Specifically, we estimate the following regression:

$$\frac{HSB_{rqy}}{Pop_{rqy}} * 10000 = \beta_0 + \beta_1 \, Reg\, More\, Enforcement_r + \beta_2 \, Post\, Reform_{qy} + \beta_3 \, Reg\, More\, Enforcement_r * Post\, Reform_{qy} + \beta_4 \, X_{rqy} + \delta_r + \mu_{qy} + U_{rqy} \quad (3)$$

where $\frac{HSB_{rqy}}{Pop_{rqy}} * 10000$ represents women's help-seeking behavior (IPV reports and applications to protection orders per 10,000 women living in region *r* in year *y* and quarter *q*). $Reg\, More\, Enforcement_r$ is a dummy variable equal to 1 for regions that enforced the reform more strongly, following the classification by Cimas et al. (2016) (Valencian region, Cantabria, Canary Islands, Madrid, Murcia, Balearic Islands, Castile-Leon, La Rioja and Castile-La Mancha), and 0 for the rest of the regions. [10] $Post_{qy}$ is also a dummy equal to 1 for all the periods after the third quarter of 2012 and 0 otherwise. δ_r is the region, and μ_{qy} is the quarter-year fixed effects. X_{rqy} includes a list of control variables, such as foreign and Spanish female and male labor market participation and unemployment rates and foreign and Spanish female population. We cluster the standard errors at the regional level and perform a wild-bootstrap.

Table 6 shows that, when we perform this alternative strategy, we still observe that the reform reduced the total number of IPV reports in regions with stricter enforcement of the law compared to regions where alternative healthcare access was provided for undocumented immigrants. Specifically, we observe a decrease of 1 IPV report per 10,000 women after the reform (equivalent to an 8.9% reduction compared to the pre-reform mean).

Table 6 highlights the reform's impact on the IPV case reporting channels. The reform primarily decreased the number of IPV reports initiated by healthcare centers through injury reports. Following the reform, there was a reduction of 0.35 reports per 10,000 women (a decrease of 30%) in injury reports issued to denounce IPV cases. Additionally, there was a minor and statistically insignificant reduction of 9% in the number of IPV cases initiated directly by the victim. Remarkably, there was no reduction in the number of IPV cases reported by the police or family members, as expected, given that the reform was not intended to affect these alternative reporting channels. Importantly, we also show, in Figure 5, that there are no pre-existing increasing or decreasing trend of IPV reports initiated by injury report before the reform.

These findings suggest that the reform primarily influenced help-seeking behavior by decreasing injury reports from medical centers. However, we cannot entirely dismiss the possibility that the loss of healthcare access also slightly reduced the number of reports initiated by victims. This

[10] See Figure 3 for the classification of regions by their degree of implementation of the law.

could be attributed to victims being less informed about their rights or less likely to be referred to specialist or social services without access to healthcare.

7.2 Changes in the Behavior of Perpetrators

An alternative explanation for the decrease in IPV help-seeking behavior following the healthcare reform is that the reform may have reduced the incidence of IPV itself. Perpetrators may have considered their own or their partner's lack of healthcare access before committing acts of violence. Consequently, removing healthcare access could potentially decrease the incidence of IPV, leading to a mechanical reduction in the number of IPV reports and applications for protection orders.

Unfortunately, directly assessing the reform's impact on IPV incidence is challenging due to the hidden nature of IPV. However, it is crucial to understand the precise mechanism behind the observed effects. Therefore, in this section, we present several pieces of evidence that are consistent with the lack of changes in the underlying incidence of IPV for affected women after the reform.

Violence Against Women Survey

In Spain, the incidence of IPV is estimated through a nationally representative Violence Against Women survey, conducted every four years. We use data from this survey for the years 2011 (before the reform) and 2015 (after the reform) and employ a similar model to our baseline results. In this analysis, the main outcome is whether women self-report experiencing any type of IPV (physical, psychological, or sexual) in the past 12 months from one's current or previous partners.

Columns (1) and (2) of Table 7 show that there is no significant impact on self-reported IPV incidence for foreign women compared to Spanish women after the reform, relative to before the reform. Columns (3) to (8) delve into the incidence of specific types of IPV (psychological, physical, and sexual IPV). Across all these categories, we find no discernible change in violent behavior for foreign women following the reform. These findings underscore that while the healthcare reform had a notable effect on help-seeking behavior among foreign IPV victims, it did not appear to influence the underlying incidence of IPV itself.

Controlling for Male Unemployment Rate

In the previous section, we provide one of the most direct ways to measure incidence; self-reported information from the victims. In this section, we assess the existence of any underlying change in incidence by employing an indirect measure of incidence.

Empirical evidence suggests that male unemployment is strongly linked to higher rates of IPV. Some studies have found employment-related stressors to be associated with marital violence (Cano and Vivian, 2003), and clearly, loss of employment constitutes a stressful event that could lead to increased tension between couples (Cunradi et al., 2009; Fagan and Browne, 1994). In addition, unemployed males tend to spend more time at home compared to their employed counterparts, resulting in an increased likelihood of having negative encounters with partners (Benson et al., 2003). Two Spanish studies have highlighted the correlation between male unemployment in Spain and the likelihood of women experiencing IPV (Sanz-Barbero et al., 2015; Alonso-Borrego and Carrasco, 2017). In addition, based on the data from the largest survey on Violence Against Women in Spain conducted in 2011 and 2015, Table A4 also illustrates a positive correlation between male unemployment rates and self-reported IPV incidence.

Therefore, we use regional foreign and Spanish male unemployment rates[11] as proxies of IPV incidence and control for them in our regression. In column 4 of Table 2, we observe that the reform's effects on IPV reporting remain unchanged when we include these measures of male unemployment rate as controls. Column 5 further demonstrates the robustness of the results when additional controls for foreign and Spanish male participation rates are included. Additionally, Table A1 in the Appendix confirms that the effect on applications for protection orders is also robust to the inclusion of these controls.

These results provide additional evidence, albeit indirect, suggesting that the underlying incidence of IPV does not significantly explain our findings regarding the relationship between IPV reporting and the healthcare reform.

Effect on Mortality or Homicides

As mentioned earlier, measuring IPV incidence is challenging. Homicide is the most severe outcome of IPV but, importantly, it is also the most objective measure of IPV as it does not depend on reporting behavior. Hence, we turn to examining female homicides as an extreme outcome of IPV to determine whether the healthcare reform had an impact on IPV incidence. However, the level of detail in the Spanish mortality data does not extend to specifically identifying female homicides as a result of IPV. Despite this limitation, we use data on the universe of female deaths in Spain, sourced from the mortality register database. We then apply the same econometric model as before, using either the total number of female deaths per 10,000 women or the total number of

[11] We control for both Spanish and foreign male unemployment rates because couples do not necessarily sort by nationality, and we allow for the possibility that the incidence of IPV could potentially be affected by changes in both unemployment rates.

female homicides per 10,000 women as the outcome variable.

Table 8 presents the findings, indicating that the reform did not exert any discernible impact on the total number of deaths or homicides among foreign women post-reform. This result, combined with our earlier analyses using self-reported incidence, along with the proxy measure to capture underlying incidence levels, collectively provides robust evidence that IPV incidence levels remained unaffected by the restriction on healthcare access. Consequently, we conclude that the observed decline in IPV reports and applications for protection orders, as highlighted in our results, is solely attributed to changes in reporting behavior.

8 Robustness Checks

8.1 Changing the Control Group

In this section, we aim to strengthen the robustness of our findings by varying the control group used in the analysis. Despite demonstrating through event study figures that the pre-trends are entirely parallel between the treatment and control groups in our baseline specification, we can use the data on applications for protection orders at the yearly level, disaggregated by region of nationality, in order to consider a different control group that may be potentially unaffected by the reform.

In Table A2, we employ as an alternative control group women from EU countries (excluding Spanish women). We acknowledge that this may not be a perfect control group due to anecdotal evidence from NGOs showing that EU individuals faced challenges accessing the Spanish healthcare system post-reform. We observe in Table A2 a significant drop in applications for protection orders among women from America. Importantly, this reduction is nearly identical in size to the effect observed in our baseline results using Spanish women as the control group (as shown in Table 4). Furthermore, the remaining results in the table closely mirror those obtained in our baseline specification.

8.2 Migration and Population Data

In this section, we begin by showing the robustness of our results when we use a different population group and a different source of population data estimates in the denominator.

In our baseline specification, we employ population data from the Municipal Register covering all women. In the first panel of Table A3, we present our main results using the same Municipal

Register dataset but using in the denominator the population of women older than 15 and between 16 and 64 years old. In the second panel of Table A3, we utilize instead population data from the Continuous Population Statistics, which serves as an alternative source of population data for the Spanish territory. The Municipal Register dataset provides information on all individuals registered at the municipality. On the other hand, the Continuous Population Statistics dataset relies on census data, updated every five years, and estimates the population biannually by considering mortality, births, and migration patterns. Once again, we estimate the same regressions as in our baseline specification, using in the denominator of the dependent variable the population of all women, women older than 15, and women between 16 and 64 years old.

As observed, the effect of the policy remains highly significant and consistent in magnitude across all specifications presented in Table A3. Therefore, variations in the definition of the age range for women at risk, as well as differences in the methodology used to estimate the overall population of women in Spain, do not alter our main baseline findings.

We proceed next to investigate whether our results might be influenced by changes in migration patterns following the reform. There are several reasons to believe that, if any, these impacts are likely to be minimal. Firstly, as demonstrated in the event study figures, the impact of the reform on help-seeking behavior is immediate, occurring already in the first quarter after its implementation. This immediacy is inconsistent with the time required for individuals to relocate from one country to another in response to a policy change. Secondly, access to healthcare is just one of the public sector benefits available to undocumented migrants. Other benefits, such as access to the public educational system, remained accessible to this group even after the reform. Consequently, the reform affects only one of the many factors individuals consider when making migration decisions.

In ay case, in this section, we endeavor to provide evidence that there was no selection in the migration patterns of foreign women after the reform, or at least, that any such effect was not statistically detectable. Firstly, in Table A4, we display the correlation between individuals' characteristics and IPV incidence using data from the largest survey on Violence Against Women in Spain. The table reveals that educational level, age group, and partnership status of both Spanish and foreign women are strongly correlated with the incidence of IPV. Subsequently, we use these characteristics, which we have demonstrated to be highly correlated with IPV, to identify whether foreign women in Spain experienced changes along these dimensions before and after the reform, using data from the Spanish Labour Force Survey. In Table A5, we find no significant changes in the age group, education, and civil status characteristics of foreign women after the reform. These findings suggest that there were no differential migration patterns among foreign women along

several individual characteristics that are important predictors of the likelihood of suffering IPV.

Finally, we run separate regressions for the same baseline model for two groups of regions: those that experienced an external migration level of foreign females between 2011 and 2012 above the median value and those that experienced external migration levels below the median. We can see in Table A6 that the effect of the policy is significant and of similar size in the two groups of regions, pointing again towards no differential selection in migration trends, before and after the reform, on the likelihood of suffering IPV for foreign women.

9 Discussion

In this paper we exploit a policy reform introduced in Spain in 2012, which restricted access to the public healthcare system for undocumented immigrants, to estimate the causal effect of healthcare access and help-seeking behavior among women experiencing IPV.

We construct a panel dataset of IPV reports and protection order requests from the judiciary system, disaggregated by nationality (foreign vs. Spanish), region, and quarter, spanning the period from 2011 to 2013.We perform a difference-in-differences model comparing the help-seeking behavior of foreign women (treated) and Spanish women (control) before and after the reform took place (third quarter of 2012). We find a reduction of 5.58 IPV reports every 10,000 foreign women, compared with Spanish women, after access to healthcare was withdrawn for undocumented immigrants. This constitutes a reduction of 12.22% compared with the pre-reform mean for foreign women. We also find that the reform reduced the number of applications for protection orders in 1.44 for every 10,000 foreign women (12%).

The difference-in-differences methodology relies heavily on the common (or parallel) trends assumption. We follow an event study approach to validate the fulfillment of this assumption in our analysis. We show that there are no significant differences in IPV reports and applications for protection orders between foreign and Spanish victims in the seven quarters leading up to the policy intervention.

To further validate our findings, we investigate how the intensity of the reform's implementation at the regional level influences help-seeking behavior. Our results indicate that regions with stricter implementation exhibit a more pronounced effect compared to those with alternative regional care programs.

Healthcare access can influence help-seeking behavior through two primary channels. Firstly, healthcare serves as a crucial avenue for IPV disclosure from the victim's perspective, as doctors are mandated to report any evidence of IPV directly to the judiciary system. Additionally, healthcare professionals can provide victims with essential information on their rights and available resources, as well as facilitate referrals to specialist IPV services. Secondly, healthcare access may directly impact perpetrators' behavior, potentially influencing reporting behavior through changes in incidence.

To account for the underlying incidence of IPV, we undertake several exercises. Firstly, we utilize data from the largest survey on Violence Against Women in Spain and find no significant change in the underlying incidence for foreign women before and after the reform, relative to Spanish women. Secondly, we employ the male unemployment rate as a proxy measure and find that controlling for Spanish and foreign male unemployment rates does not alter our main regression results for help-seeking behavior. Finally, using register data on the universe of female deaths and homicides in Spain, we find no impact of the reform on foreign women's mortality or homicides. Taken together, these findings suggest that the observed changes in help-seeking behavior among IPV victims cannot be attributed to shifts in the underlying incidence of IPV, thereby lending further support to the robustness of our results.

Finally, we investigate how the reform influenced the reporting channel for IPV cases. While we possess data on the number of IPV cases reported by victims, medical centers (through injury reports), and police/family, we lack information on the victim's nationality in this context. Consequently, we leverage the variations in the reform's implementation intensity across regions to conduct a difference-in-differences analysis. By comparing regions with stricter enforcement to those with less stringent enforcement before and after the reform, we offer evidence that the reform's main effects on help-seeking behavior were driven by a reduction in injury reports by medical centers.

Our work is especially relevant to inform current discussions on the impacts of immigration policies. In many countries, there has been a surge in the inflow of undocumented migrants (as shown by the refugee crisis in Europe and the US), and fear about the potentially negative consequences of immigration has spread over the resident population. As a result, this has prompted many policymakers to consider introducing policies limiting access to several public programs and benefits for the immigrant population. Our paper provides evidence of the negative consequences of policies that restrict such access, mainly drawing attention to the importance of carefully evaluating the impact of health policies on families and relationships, particularly when they affect the most

vulnerable groups in society.

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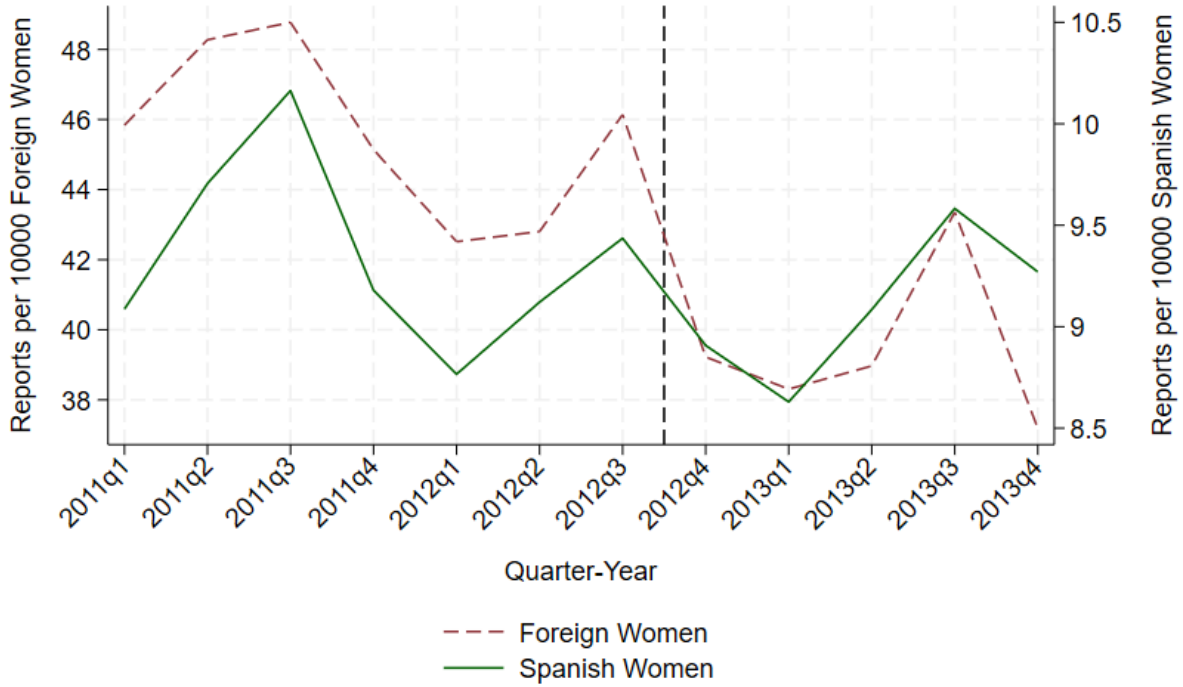
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10 Figures and Tables

Figure 1: Evolution of IPV Reports per 10,000 Women

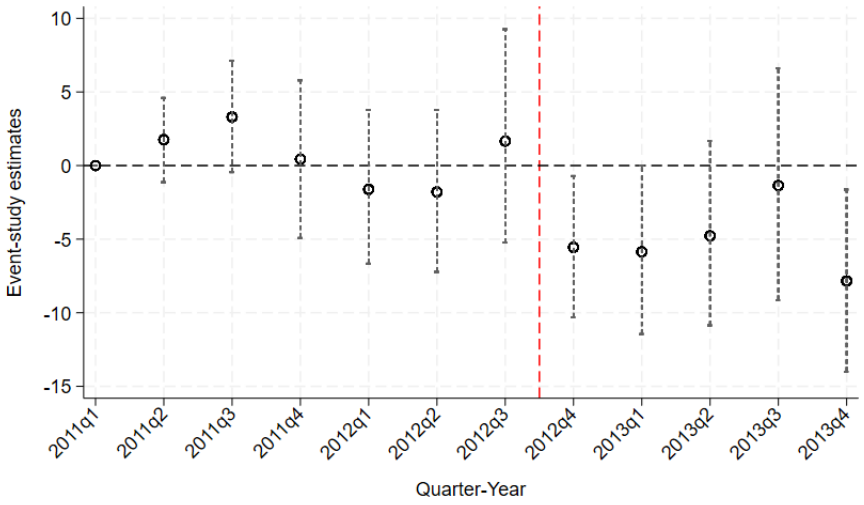


Source: Quarterly Judicial Reports, years 2011-2013.

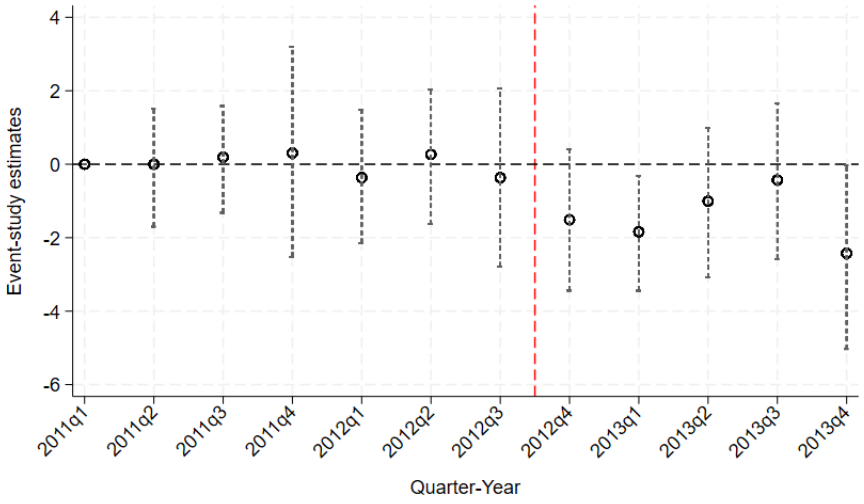
Notes: This figure plots the evolution of the number of IPV reports per 10,000 women between 2011 and 2013. The dashed red line shows this evolution for foreign women, while the green solid line is for Spanish women.

Figure 2: Event Studies

(a) IPV Reports per 10,000 Women



(b) Applications for Protection Orders per 10,000 Women



Source: Quarterly Judicial Reports, years 2011-2013.

Notes: This figure reports the estimates and the 95 percent confidence intervals of the interaction term of Foreign and Post Reform dummies of the event studies estimation following 2. The reform took place after the third quarter of 2012. In the estimations, we control for regional and quarter-year fixed effects, as well as women's unemployment rate, women's participation rate, foreign and Spanish men's unemployment and participation rates, and the population of women. All standard errors are clustered at the regional level, and wild-bootstrap is performed. The outcomes considered are displayed on top of each figure.

Figure 3: Implementation of the Law

Region	Legislative Action	Date	Groups Covered	Requirements	Services Included	Medication
Regions with less enforcement						
Asturias	✓	01/09/2012	No resources	Low	All	All
Navarra	✓	25/02/2013	All	Low	All	All
Basque Country	✓	01/07/2012	No resources	High	All	All
Galizia	✓	31/08/2012	No resources	Medium	All	All
Catalonia	✓	01/09/2012	No resources	Medium	Primary	All
Andalusia	✓	06/06/2013	No resources	Low	All	All
Aragon	✓	19/03/2013	No resources	Medium	All	Partially
Extremadura	✓	15/07/2013	No resources	Medium	All	All
Regions with more enforcement						
Valencian Region	✓	31/07/2013	No resources	Medium	All	All
Cantabria	✓	25/11/2013	No resources	Medium	All	All
Canary Islands	✓	16/08/2013	No resources	High	All	Partially
Madrid						
Murcia						
Balearic Islands						
Castile-Leon						
La Rioja						
Castile-La Mancha						

Source: Authors' own construction following the classification made by Cimas et al. (2016).

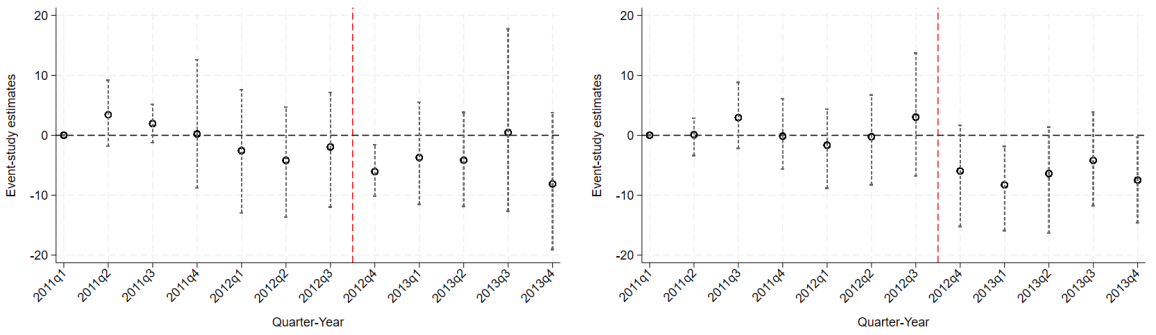
Notes: This figure ranks regions by the date alternative healthcare provision for undocumented migrants was made available and the intensity of these alternative healthcare provisions derived from Cimas et al. (2016). The intensity measure takes into account the group of undocumented immigrants covered, the number of requirements/documents needed to be included in the public healthcare system, and the type of healthcare services and medication provided.

Figure 4: Event Studies by Intensity of Enforcement

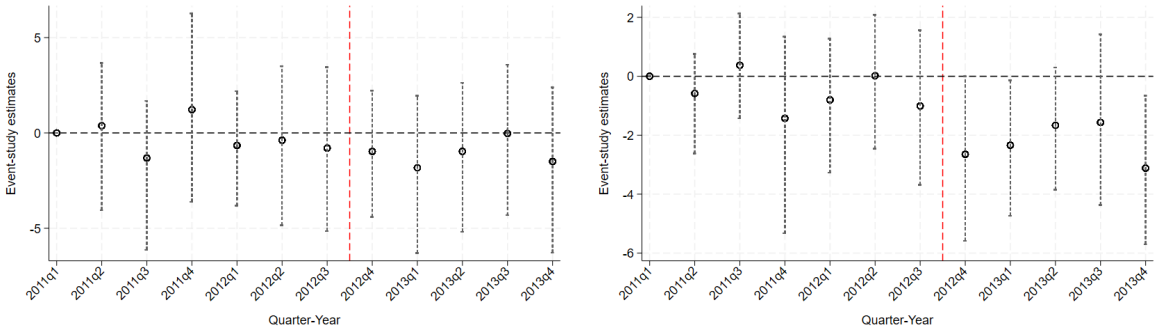
IPV Reports per 10,000 Women

(a) Regions with Less Enforcement

(b) Regions with More Enforcement



Applications to Protection Orders per 10,000 Women



(c) Regions with Less Enforcement

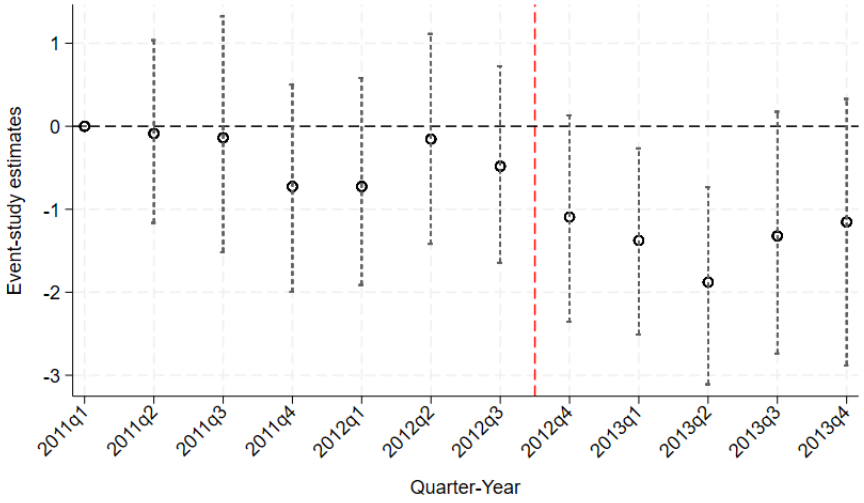
(d) Regions with More Enforcement

Source: Quarterly Judicial Reports, years 2011-2013.

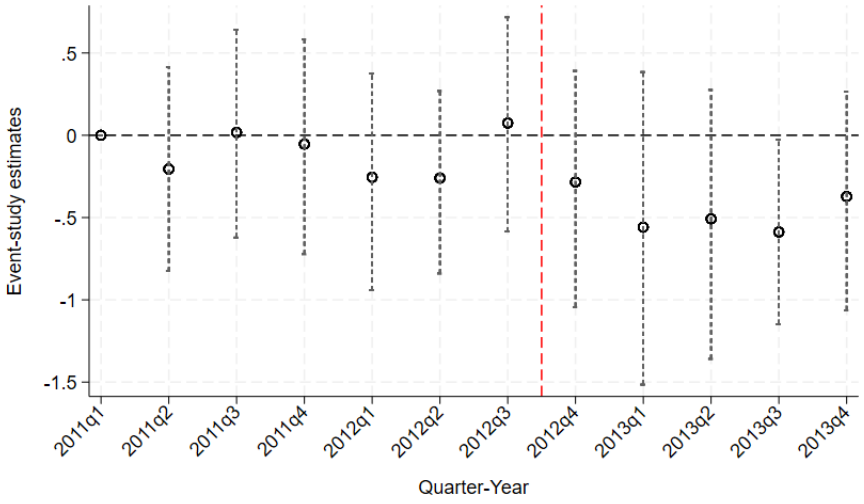
Notes: This figure reports the estimates and the 95 percent confidence intervals of the interaction term of Foreign and Post Reform dummies of the event studies estimation following 2. Figures a) and c) report the estimates for regions where the law was less enforced, while figures b) and d) report it for regions that enforced the reform more. The reform took place after the third quarter of 2012. In the estimations, we control for regional and quarter-year fixed effects, as well as women's unemployment rate, women's participation rate, foreign and Spanish men's unemployment and participation rates, and the population of women. All standard errors are clustered at the regional level, and wild-bootstrap is performed. The outcomes considered are displayed on top of the figures.

Figure 5: Event Studies on IPV Reports by Who is Reporting

(a) Total IPV Reports per 10,000 Women



(b) IPV Reports Initiated by Injury Report per 10,000 Women



Source: Quarterly Judicial Reports, years 2011-2013.

Notes: This figure reports the estimates and the 95 percent confidence intervals of the interaction term of Reg More Enforcement and Post Reform dummies of the event studies estimation derived from 3. The reform took place after the third quarter of 2012. In the estimations, we control for regional and quarter-year fixed effects, as well as women's unemployment rate, women's participation rate, foreign and Spanish men's unemployment and participation rates, and the population of women. All standard errors are clustered at the regional level, and wild-bootstrap is performed. The outcomes considered are displayed on top of each figure.

Table 1: Descriptive Statistics

	Spanish Women					
	Before Reform			After Reform		
	Mean	Min	Max	Mean	Min	Max
Reports per 10,000 women	9.35	5.02	17.75	9.09	4.63	16.56
Applications per 10,000 women	2.67	0.99	6.06	2.48	0.99	5.30
% Reports with Applications	29.32	15.43	46.21	28.12	12.46	45.74
Female Population (in 10,000)	124.14	13.98	390.99	124.48	14.02	391.46
Female PR (%)	50.57	43.40	62.69	51.13	45.56	60.83
Fema UR (%)	20.19	9.38	36	23.72	14.1	38.98
Male PR (%)	64.75	56.84	73.73	64.06	56.71	72.21
Male UR (%)	18.91	9.85	33.62	22.20	12.98	34.79
	Foreign Women					
	Before Reform			After Reform		
	Mean	Min	Max	Mean	Min	Max
Reports per 10,000 women	45.64	27.93	92.16	39.40	18.82	80.99
Applications per 10,000 women	12.07	3.63	26.94	10.35	2.82	22.38
% Reports with Applications	27.36	6.06	63.41	27.44	13.61	60
Female Population (in 10,000)	16.16	1.92	55.61	16.04	1.92	55.61
Female PR (%)	70.99	53.20	84.68	70.68	59.73	81.16
Female UR (%)	32.92	16.36	60.43	37.22	16.17	64.16
Male PR (%)	82.69	69.88	91.37	81.35	61.07	90.69
Male UR (%)	36.50	18.31	68.21	39.23	18.47	74.47

Source: Quarterly Judicial Reports and Labor Force Survey, years 2011-2013.
Notes: This table reports summary statistics for the main outcome and control variables, before and after the reform. Panel 1 reports the summary statistics for Spanish women and Panel 2 for foreign women.

Table 2: Impact of the Reform on IPV Reports

	IPV Reports per 10,000 Women						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Foreign Women	36.290***	33.911***	24.764***	24.727***	24.698***	25.270***	23.922***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Post Reform	1.993	1.437	-1.563	-0.367	0.359	-0.537	
	(1.368)	(1.664)	(1.245)	(1.638)	(1.784)	(1.929)	
Foreign * Post Reform	-5.977***	-6.120***	-5.559**	-5.580***	-5.587***	-5.584***	-5.597***
	(1.921)	(1.967)	(2.147)	(2.093)	(2.095)	(2.095)	(2.025)
Female UR		0.187	0.056	0.074	0.080	0.072	0.118
		(0.144)	(0.137)	(0.134)	(0.139)	(0.152)	(0.155)
Female PR			0.529*	0.520*	0.518*	0.512*	0.540**
			(0.294)	(0.284)	(0.279)	(0.260)	(0.267)
Foreign Male UR				-0.031	-0.025	-0.025	0.028
				(0.061)	(0.060)	(0.063)	(0.060)
Spanish Male UR				-0.183	-0.138	-0.133	-0.129
				(0.324)	(0.304)	(0.297)	(0.351)
Foreign Male PR					0.092	0.092	0.059
					(0.074)	(0.074)	(0.062)
Spanish Male PR					0.074	0.077	-0.086
					(0.248)	(0.258)	(0.545)
Female Pop (in 10,000)						0.003	0.001
						(0.021)	(0.055)
Region FE	✓	✓	✓	✓	✓	✓	✓
Year-Quarter FE	✓	✓	✓	✓	✓	✓	✓
Reg Linear Trend							✓
Observations	408	408	408	408	408	408	408
R^2	0.866	0.868	0.879	0.879	0.880	0.880	0.889
Mean Dep. Variable	45.641	45.641	45.641	45.641	45.641	45.641	45.641

Source: Quarterly Judicial Reports, years 2011-2013.

Notes: This table reports the impact of the reform on the number of IPV reports per every 10,000 women. The reform took place after the third quarter of 2012. Column 1 only controls for regional and quarter-year fixed effects. Column 2 also controls the women's unemployment rate and column 3 for women's participation rate. Column 4 additionally controls for foreign and Spanish men's unemployment rates. Column 5 controls for foreign and Spanish men's participation rates. Column 6 controls for the population of women. Finally, column 7 adds regional linear time trends. All standard errors are clustered at the regional level, and wild-bootstrap is performed.

*** p<0.01, ** p<0.05, * p<0.1.

Table 3: Impact of the Reform on Applications for Protection Orders

	Applications for Protection Orders		Perc. Reports with Protection Orders	
	(1)	(2)	(3)	(4)
Foreign Women	9.400***	5.406**	-1.962	-2.548
	(0.000)	(2.569)	(1.461)	(2.487)
Post Reform	-0.170	-0.127	-0.696	-1.787
	(0.423)	(0.309)	(1.299)	(1.872)
Foreign * Post Reform	-1.528***	-1.449***	1.282	1.234
	(0.528)	(0.524)	(1.359)	(1.376)
Region FE	✓	✓	✓	✓
Year-Quarter FE	✓	✓	✓	✓
Controls		✓		✓
Observations	408	408	408	408
R^2	0.795	0.819	0.618	0.624
Mean Dep. Variable	12.070	12.070	27.362	27.362

Source: Quarterly Judicial Reports, years 2011-2013.
Notes: This table reports the impact of the reform on the number of applications for protection orders every 10,000 women (columns 1 and 2) and the percentage of IPV reports that apply for protection orders (columns 3 and 4). The reform took place after the third quarter of 2012. Columns 1 and 3 only control for regional and quarter-year fixed effects. Columns 2 and 4 also control for the women's unemployment rate, women's participation rate, foreign and Spanish men's unemployment and participation rates, and the population of women. All standard errors are clustered at the regional level, and wild-bootstrap is performed.
*** p<0.01, ** p<0.05, * p<0.1.

Table 4: Impact of the Reform on Applications for Protection Orders by Nationality

	Applications for Protection Orders per 10,000 Women					
	All Foreigners	EU	Rest of Europe	America	Africa	Asia/Oceania
Foreign Women	17.733*	16.654	-10.268	47.255***	11.608**	8.729
	(10.260)	(13.588)	(10.880)	(0.000)	(4.709)	(6.332)
Post Reform	-2.755	-1.409	17.573	-6.190**	-1.574	0.442
	(2.112)	(2.593)	(10.867)	(3.022)	(4.354)	(1.304e+19)
Foreign * Post Reform	-3.666**	-2.237	-5.215	-5.291***	-3.168	0.460
	(1.423)	(2.302)	(4.558)	(1.781)	(2.757)	(1.980)
Region FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Observations	102	102	102	102	102	102
R^2	0.924	0.874	0.677	0.915	0.888	0.462
Mean Dep. Variable	46.941	36.585	32.733	69.538	45.373	15.991

Source: Yearly Judicial Reports, years 2011-2013.

Notes: This table reports the impact of the reform on the number of applications for protection orders every 10,000 women for foreign women of different nationalities, taking Spanish women as the control group. Column 1 compares the applications for protection orders of Spanish women and foreign women before and after the reform, column 2 compares women born in a country of the EU with Spanish women, column 3 compares women born in a European country outside the EU with Spanish women, column 4 compares women born in America with Spanish women, column 5 compares women born in Africa with Spanish women, and column 6 compares women born in Asia or Oceania with Spanish women. The Post Reform dummy is equal to one in the year 2013 and zero in the years 2011 and 2012. All specifications control for regional fixed effects, women's unemployment rate, women's participation rate, and foreign and Spanish men's unemployment and participation rates. All standard errors are clustered at the regional level, and wild-bootstrap is performed.

Table 5: Impact of the Reform by Intensity of Enforcement

	Reports		Applications		% Appl. Orders	
	Regions Enforced More	Regions Enforced Less	Regions Enforced More	Regions Enforced Less	Regions Enforced More	Regions Enforced Less
Foreign Women	23.057***	42.752***	2.730**	16.225***	-4.065	5.164
	(0.000)	(0.000)	(1.076)	(0.000)	(3.092)	(13.505)
Post Reform	2.484	-4.649	-0.701	-0.709	-4.507*	-2.370
	(1.906)	(3.745)	(0.466)	(1.122)	(2.382)	(4.170)
Foreign * Post Reform	-7.046**	-3.784	-1.778***	-0.836	2.092	0.523
	(2.708)	(3.507)	(0.610)	(0.769)	(1.649)	(3.022)
Region FE	✓	✓	✓	✓	✓	✓
Year-Quarter FE	✓	✓	✓	✓	✓	✓
Reg Linear Trend						
Controls	✓	✓	✓	✓	✓	✓
Observations	216	192	216	192	216	192
R^2	0.919	0.905	0.892	0.829	0.656	0.646
Mean Dep. Variable	42.320	49.378	10.807	12.398	28.085	26.548
P-value Difference	0.463		0.339		0.649	

Source: Quarterly Judicial Reports, years 2011-2013.

Notes: This table reports the impact of the reform on the number of IPV reports per 10,000 women (columns 1 and 2), the number of applications for protection orders per 10,000 women (columns 3 and 4), and the percentage of IPV reports that also apply for protection orders (columns 5 and 6). The reform took place after the third quarter of 2012. Columns 1, 3, and 5 report the reform's effect on the different outcomes for regions where the reform enforcement was stronger, while columns 2, 4, and 6 estimate it for regions that enforced the reform less. All specifications control for regional and quarter-year fixed effects, women's unemployment rate, women's participation rate, foreign and Spanish men's unemployment and participation rates, and the population of women. All standard errors are clustered at the regional level, and wild-bootstrap is performed. The p-values testing that the coefficients (of the interaction term) for the two subgroups are equal are reported at the bottom of the table.

*** p<0.01, ** p<0.05, * p<0.1.

Table 6: Impact of the Reform on Who is Reporting

	Reports per 10,000 women			
	Total	By Victims	By Injury Report	By Police or Family
Reg More Enforcement	-84.423	-84.480	-16.231	16.288
	(69.804)	(227.376)	(28.118)	(182.334)
Post Reform	0.114	-0.780	0.665*	0.228
	(4.302)	(0.833)	(0.397)	(0.623)
Reg More Enforcement* Post Reform	-1.005*	-0.826	-0.354*	0.176
	(0.539)	(0.657)	(0.209)	(0.445)
Region FE	✓	✓	✓	✓
Year-Quarter FE	✓	✓	✓	✓
Controls	✓	✓	✓	✓
Observations	204	204	204	204
R^2	0.954	0.906	0.858	0.696
Mean Dep. Variable	11.160	8.264	1.152	1.743

Source: Quarterly Judicial Reports, years 2011-2013.

Notes: This table reports the impact of the reform, comparing regions that enforced the reform more or less. Column 1 reports the effect on the total number of IPV reports per 10,000 women. Columns 2 to 4 show the impact of the reform on the number of IPV reports per 10,000 women initiated by the victims (column 2), by injury report (column 3), or by the policy or family (column 4). The reform took place after the third quarter of 2012. All specifications control for regional and quarter-year fixed effects, women's unemployment rate, women's participation rate, foreign and Spanish men's unemployment and participation rates, and the population of women. All standard errors are clustered at the regional level, and wild-bootstrap is performed.

*** p<0.01, ** p<0.05, * p<0.1.

Table 7: Impact of the Reform on IPV Incidence

	Any Violence		Psychological Violence		Physical Violence		Sexual Violence	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Foreign Women	0.050	0.094	0.045	0.090	0.013*	0.016	0.026	0.007
	(0.031)	(0.061)	(0.029)	(0.066)	(0.007)	(0.019)	(0.019)	(0.032)
Post Reform	-0.055***	-0.058	-0.036***	-0.038	-0.003	-0.000	-0.041***	-0.050**
	(0.018)	(0.038)	(0.012)	(0.029)	(0.002)	(0.004)	(0.013)	(0.021)
Foreign*Post Reform	0.051	0.044	0.057	0.049	-0.004	-0.004	-0.013	-0.009
	(0.038)	(0.037)	(0.036)	(0.035)	(0.011)	(0.009)	(0.013)	(0.012)
Region FE	✓	✓	✓	✓	✓	✓	✓	✓
Controls		✓		✓		✓		✓
Observations	15,453	15,409	15,465	15,421	15,465	15,421	15,465	15,421
R^2	0.019	0.029	0.015	0.023	0.002	0.008	0.021	0.028
Mean Dep. Variable	0.225	0.225	0.198	0.198	0.031	0.031	0.077	0.077

Source: IPV Macro-survey, years 2011 and 2015.

Notes: This table reports the impact of the reform on the probability of suffering from any kind of IPV (columns 1 and 2),psychological IPV (column 2), physical IPV (column 3), and sexual violence (column 4). The Post Reform dummy is equal to one the year 2015, and zero the year 2011. All specifications control for regional fixed effects, women's unemployment rate, women's participation rate, and foreign and Spanish men's unemployment and participation rates. All standard errors are clustered at the regional level, and wild-bootstrap is performed.

Table 8: Impact of the Reform on Mortality

	Deaths per 10,000 women	
	Total	Homicide
Foreign Women	-12.858***	-0.018
	(4.653)	(0.019)
Post Reform	0.309	-0.007
	(0.530)	(0.013)
Foreign * Post Reform	0.269	0.000
	(0.339)	(0.000)
Region FE	✓	✓
Year-Quarter FE	✓	✓
Controls	✓	✓
Observations	408	408
R^2	0.938	0.132
Mean Dep. Variable	3.380	0.024

Source: Mortality Register Database, years 2011-2013.
Notes: This table reports the impact of the reform on the total number of deaths per 10,000 women (column 1) and the number of deaths due to homicide per 10,000 women (column 2). The reform took place after the third quarter of 2012. All specifications control for regional and quarter-year fixed effects, women's unemployment rate, women's participation rate, foreign and Spanish men's unemployment and participation rates, and the population of women. All standard errors are clustered at the regional level, and wild-bootstrap is performed.

A Appendix Tables and Figures

Figure A1: Percentage of Undocumented Immigrants by Nationality in 2011

Nationality	% Undocumented	Nationality	% Undocumented
Dominica	75.40	Korea, South	25.85
Chile	67.91	Senegal	24.34
Guatemala	57.85	Benin	24.27
Saudi Arabia	57.10	Burkina Faso	23.05
Liberia	56.83	Guinea-Bissau	22.93
Ivory Coast	55.49	Colombia	22.48
Paraguay	53.40	Togo	22.30
Nicaragua	52.08	Bosnia and Herzegovina	21.88
Honduras	50.90	Bangladesh	21.47
Vietnam	50.81	Jordan	20.02
Ethiopia	49.90	Mali	19.96
Costa Rica	48.80	Cuba	19.41
Nepal	47.82	Ecuador	19.21
El Salvador	47.73	Lebanon	16.93
Panama	47.35	Syria	16.86
Congo	45.73	Serbia	16.63
Kazakhstan	44.96	Dominican Republic	16.17
Brazil	44.31	Peru	15.90
Equatorial Guinea	43.39	Indonesia	15.22
Venezuela	37.72	Ghana	14.83
Israel	34.93	South Africa	13.62
Angola	33.90	Mauritania	12.95
Argentina	33.77	India	12.77
Macedonia	33.10	Gambia	12.17
Sierra Leone	31.95	Pakistan	11.51
Uruguay	31.66	Tunisia	10.32
Iran	30.77	Moldova	10.30
Guinea	30.06	Japan	10.28
Turkey	29.36	Egypt	8.83
Cameroon	28.61	Algeria	7.70
Bolivia	28.27	Philippines	5.45
Iraq	27.95	Thailand	3.61
Nigeria	27.92	Kenya	1.14
Cape Verde	25.93		

Source: Jiménez-Rubio and Vall Castello (2020)
Notes: This table reports the percentage of undocumented immigrants by nationality. This percentage is based on the number of individuals from a given nationality living in Spain in 2011 (as reported in the 2011 census) and the number of individuals of that nationality with a legal residence permit to live in Spain based on the Spanish Ministry of Employment and Social Security.

Table A1: Impact of the Reform on Applications for Protection Orders

	Applications for Protection Orders per 10,000 Women						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Foreign Women	9.400***	8.074***	5.378**	5.383**	5.406**	6.048	5.615
	(0.000)	(0.000)	(2.610)	(2.586)	(2.569)	(4.359)	(4.104)
Post Reform	0.215	-0.094	-1.039**	-0.902	-0.127	-1.046**	
	(0.464)	(0.641)	(0.445)	(0.616)	(0.309)	(0.440)	
Foreign * Post Reform	-1.528***	-1.608***	-1.442***	-1.442***	-1.449***	-1.446***	-1.427***
	(0.528)	(0.517)	(0.522)	(0.522)	(0.524)	(0.523)	(0.535)
Female UR		0.104**	0.066	0.065	0.070	0.061	0.059
		(0.047)	(0.042)	(0.046)	(0.048)	(0.054)	(0.058)
Female PR			0.156	0.156	0.152	0.145	0.166
			(0.128)	(0.132)	(0.132)	(0.127)	(0.132)
Foreign Male UR				0.022	0.030	0.030	0.031
				(0.032)	(0.036)	(0.037)	(0.030)
Spanish Male UR				-0.052	-0.005	0.001	0.059
				(0.089)	(0.063)	(0.069)	(0.186)
Foreign Male PR					0.075***	0.074***	0.049**
					(0.000)	(0.000)	(0.020)
Spanish Male PR					0.224*	0.227*	0.141
					(0.128)	(0.128)	(0.318)
Female Pop (in 10,000)						0.004	0.003
						(0.006)	(0.007)
Region FE	✓	✓	✓	✓	✓	✓	✓
Year-Quarter FE	✓	✓	✓	✓	✓	✓	✓
Reg Linear Trend							✓
Observations	408	408	408	408	408	408	408
R^2	0.795	0.804	0.816	0.817	0.819	0.820	0.831
Mean Dep. Variable	12.070	12.070	12.070	12.070	12.070	12.070	12.070

Source: Quarterly Judicial Reports, years 2011-2013.

Notes: This table reports the impact of the reform on the number of applications for protection orders per every 10,000 women. The reform took place after the third quarter of 2012. Column 1 only controls for regional and quarter-year fixed effects. Column 2 also controls the women's unemployment rate, and column 3 for women's participation rate. Column 4 additionally controls for foreign and Spanish men's unemployment rates. Column 5 controls for foreign and Spanish men's participation rates. Column 6 controls for the population of women. Finally, column 7 adds regional linear time trends. All standard errors are clustered at the regional level, and wild-bootstrap is performed.

*** p<0.01, ** p<0.05, * p<0.1.

Table A2: Impact of the Reform on Applications for Protection Orders by Nationality with Women from the EU as Control Group

	Applications for Protection Orders per 10,000 Women				
	All Foreigners	Rest of Europe	America	Africa	Asia/Oceania
Women from Outside EU	8.103	-29.005***	19.146**	2.769	-443.403
	(6.815)	(9.054)	(7.608)	(9.914)	(295.807)
Post Reform	-9.932	11.423	-14.255**	-8.037	-17.707
	(6.455)	(9.038)	(5.893)	(8.696)	(15.875)
Outside EU * Post Reform	-2.804	-3.137	-4.796**	-1.088	12.888
	(2.208)	(5.934)	(1.862)	(4.732)	(9.260)
Region FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
Observations	102	102	102	102	102
R^2	0.874	0.689	0.881	0.767	0.801
Mean Dep. Variable	46.941	32.733	69.538	45.373	15.991

Source: Yearly Judicial Reports, years 2011-2013.

Notes: This table reports the impact of the reform on the number of applications for protection orders every 10,000 women for foreign women of different nationalities, taking women born in a country of the EU (except Spain) as the control group. Column 1 compares women born in a country of the EU and all the rest of the foreign women, column 2 compares women born in a European country outside the EU with women born in a country of the EU, column 4 compares women born in America with women born in a country of the EU, column 5 compares women born in Africa with women born in a country of the EU, and column 6 compares women born in Asia or Oceania with women born in a country of the EU. The Post Reform dummy is equal to one in the year 2013 and zero in the years 2011 and 2012. All specifications control for regional fixed effects, women's unemployment rate, women's participation rate, and foreign and Spanish men's unemployment and participation rates. All standard errors are clustered at the regional level, and wild-bootstrap is performed.

Table A3: Robustness: Using Different Population Estimates

	Reports per 10,000 women		
	All women	Women older 15	Women 16-64 y.o.
Panel A: Population estimates from Municipal Register			
Foreign Women	25.270***	28.981***	30.128***
	(0.000)	(0.000)	(0.000)
Post Reform	-0.537	-0.663	-0.368
	(1.929)	(2.273)	(2.011)
Foreign * Post Reform	-5.584***	-6.777***	-6.987***
	(2.095)	(2.453)	(2.528)
Mean Dep. Variable	45.641	53.825	56.933
Panel B: Population estimates from Continuous Population Statistics			
Foreign Women	28.627***	32.367***	31.825***
	(0.000)	(0.000)	(0.000)
Post Reform	-0.746	-0.926	-0.779
	(2.084)	(2.309)	(2.371)
Foreign * Post Reform	-5.172***	-6.212***	-6.096***
	(1.940)	(2.330)	(2.206)
Mean Dep. Variable	49.311	57.756	57.290

Source: Quarterly Judicial Reports, years 2011-2013.
Notes: This table reports the impact of the reform on the number of IPV reports per every 10,000 women using population estimates from different databases. Panel A uses data from the Municipal Register while Panel B uses population estimates from the Continuous Population Statistics. Column 1 uses the total female population (without any age restriction), column 2 only considers women older than 15, and column 3 women between 16 and 64 years old. All specifications control for regional and quarter-year fixed effects, women's unemployment rate, women's participation rate, foreign and Spanish men's unemployment and participation rates, and the population of women. All standard errors are clustered at the regional level, and wild-bootstrap is performed.
*** p<0.01, ** p<0.05, * p<0.1.

Table A4: Correlation of Individuals' Characteristics on IPV Incidence

	IPV in the last 12 months		
	All	Spanish Women	Foreign Women
Foreign	0.108***		
	(0.021)		
Employed	-0.004	-0.008	0.023
	(0.009)	(0.009)	(0.034)
Unemployed	0.022**	0.021**	0.035
	(0.010)	(0.011)	(0.036)
Partner is foreign	0.044***	0.046**	0.043*
	(0.015)	(0.019)	(0.026)
Has a partner	0.032***	0.023**	0.105***
	(0.010)	(0.010)	(0.036)
Married	0.006	0.013	-0.049
	(0.008)	(0.009)	(0.032)
Has children	-0.004	-0.004	-0.005
	(0.010)	(0.010)	(0.043)
Less Primary ed.	0.133***	0.126***	0.171*
	(0.016)	(0.016)	(0.089)
Primary ed.	0.079***	0.070***	0.167***
	(0.010)	(0.011)	(0.044)
Secondary ed.	0.039***	0.036***	0.068**
	(0.007)	(0.007)	(0.029)
Age 25-34	-0.060***	-0.054***	-0.091**
	(0.014)	(0.015)	(0.044)
Age 35-44	-0.055***	-0.057***	-0.037
	(0.015)	(0.015)	(0.049)
Age 45-54	-0.065***	-0.064***	-0.073
	(0.015)	(0.015)	(0.056)
Age 55-64	-0.056***	-0.054***	-0.096
	(0.016)	(0.016)	(0.069)
Age 65-99	-0.083***	-0.082***	-0.214***
	(0.017)	(0.017)	(0.074)
Spanish Male UR	0.008***	0.008***	0.009***
	(0.002)	(0.002)	(0.003)
Foreign Male UR	-0.000	-0.000	0.004
	(0.001)	(0.001)	(0.003)
Female UR	-0.005***	-0.005***	-0.006**
	(0.001)	(0.002)	(0.003)
Region FE			
Year FE	✓	✓	✓
Observations	15,345	14,197	1,148
R^2	0.023	0.019	0.041
Mean Dep. Variable	0.149	0.143	0.223

Source: IPV Macro-survey, years 2011 and 2015.
Notes: This table reports the correlation of IPV incidence in the last 12 months with individuals' characteristics and women's unemployment rate, and foreign and Spanish men's unemployment rates. All specifications control for year fixed effects, robust standard errors are reported.
*** p<0.01, ** p<0.05, * p<0.1.

Table A5: Evolution of the Characteristics of Foreign Women

	Characteristics of Foreign Women										
	Age			Education				Civil Status			
	Less 24	25-64	More 65	Primary	Secondary First	Secondary Second	Tertiary	Single	Married	Widowed	Separated Divorced
Year 2011 Quarter 2	-0.006	0.002	0.004	0.008	-0.006	-0.000	-0.003	-0.006	0.003	0.001	0.002
	(0.006)	(0.005)	(0.005)	(0.014)	(0.014)	(0.006)	(0.012)	(0.009)	(0.007)	(0.007)	(0.005)
Year 2011 Quarter 3	-0.004	0.001	0.003	0.012	0.005	-0.012	-0.002	-0.008	0.002	0.007	-0.000
	(0.007)	(0.005)	(0.004)	(0.024)	(0.011)	(0.013)	(0.009)	(0.013)	(0.007)	(0.005)	(0.004)
Year 2011 Quarter 4	-0.003	-0.001	0.004	0.011	0.010	-0.019	-0.003	-0.020*	0.009	0.011*	0.000
	(0.009)	(0.009)	(0.004)	(0.019)	(0.014)	(0.020)	(0.010)	(0.011)	(0.009)	(0.006)	(0.004)
Year 2012 Quarter 1	-0.000	-0.005	0.005	0.019	-0.001	-0.009	-0.007	-0.005	-0.003	0.009	-0.001
	(0.004)	(0.010)	(0.005)	(0.021)	(0.000)	(0.021)	(0.013)	(0.011)	(0.016)	(0.006)	(0.010)
Year 2012 Quarter 2	0.003	-0.011	0.008	0.036***	-0.003	-0.016	-0.001	-0.002	-0.002	0.004	0.000
	(0.009)	(0.012)	(0.008)	(0.013)	(0.027)	(0.022)	(0.016)	(0.011)	(0.011)	(0.009)	(0.000)
Year 2012 Quarter 3	0.007	-0.019	0.013	0.012	0.006	-0.003	-0.001	-0.012	-0.001	0.009	0.005
	(0.013)	(0.016)	(0.009)	(0.015)	(0.014)	(0.011)	(0.018)	(0.016)	(0.021)	(0.010)	(0.010)
Year 2012 Quarter 4	0.004	-0.017	0.013	0.021	-0.013	0.012	0.000	-0.015	-0.001	0.004	0.011
	(0.013)	(0.015)	(0.009)	(0.014)	(0.023)	(0.039)	(0.000)	(0.017)	(0.017)	(0.010)	(0.011)
Year 2013 Quarter 1	-0.005	0.004	0.001	0.018	-0.015	0.012	-0.005	-0.018	0.012	0.002	0.004
	(0.014)	(0.012)	(0.008)	(0.017)	(0.023)	(0.026)	(0.011)	(0.016)	(0.017)	(0.008)	(0.005)
Year 2013 Quarter 2	-0.010	0.007	0.003	-0.004	0.007	0.004	0.004	-0.016	0.016	-0.004	0.004
	(0.013)	(0.012)	(0.009)	(0.018)	(0.019)	(0.029)	(0.013)	(0.016)	(0.017)	(0.007)	(0.007)
Year 2013 Quarter 3	-0.016	0.006	0.009	-0.007	-0.001	-0.013	0.017	-0.013	0.007	0.003	0.003
	(0.012)	(0.014)	(0.014)	(0.014)	(0.000)	(0.017)	(0.019)	(0.018)	(0.020)	(0.009)	(0.009)
Year 2013 Quarter 4	-0.012	0.006	0.006	0.009	0.001	-0.010	0.011	-0.018	0.005	0.002	0.012
	(0.013)	(0.010)	(0.009)	(0.011)	(0.011)	(0.023)	(0.014)	(0.017)	(0.022)	(0.009)	(0.010)
Region FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	228	228	228	228	228	228	228	228	228	228	228
R^2	0.525	0.536	0.710	0.570	0.719	0.801	0.718	0.815	0.823	0.664	0.656
Mean Dep. Variable	0.147	0.810	0.043	0.153	0.244	0.296	0.174	0.329	0.554	0.042	0.075

Source: LFS, years 2011-2013.

Notes: This table reports the characteristics of foreign women residing in Spain compared to the first quarter of 2011. All specifications control for region fixed effects. All standard errors are clustered at the regional level, and wild-bootstrap is performed.

*** p<0.01, ** p<0.05, * p<0.1.

Table A6: Heterogeneity by Female Foreign Migration

	Reports per 10,000 women	
	Regions more female foreign migration	Regions less female foreign migration
Foreign Women	38.560***	21.896***
	(13.852)	(0.000)
Post Reform	-2.089	1.096
	(4.549)	(2.492)
Foreign * Post Reform	-6.274**	-5.540*
	(2.793)	(2.834)
Region FE	✓	✓
Year-Quarter FE	✓	✓
Controls	✓	✓
Observations	192	216
R^2	0.909	0.876
Mean Dep. Variable	45.541	45.731
P-value Difference	0.854	

Source: Quarterly Judicial Reports, years 2011-2013.
Notes: This table reports the impact of the reform on the number of IPV reports per 10,000 women. Column 1 reports the reform's effect for regions that experienced external migration between 2011 and 2012 of foreign female individuals above the median while column 2 reports the reform's effects for regions that experienced less external migration than the median. The reform took place after the third quarter of 2012. All specifications control for regional and quarter-year fixed effects, women's unemployment rate, women's participation rate, foreign and Spanish men's unemployment and participation rates, and the population of women. All standard errors are clustered at the regional level, and wild-bootstrap is performed. Finally, the p-value testing the hypothesis that the coefficients for the interaction term are equal between the two groups are reported at the bottom.
*** p<0.01, ** p<0.05, * p<0.1.